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- (71) Applicants (for all designated States except US): **ICON GENETICS AG** [DE/DE]; Maximilianstrasse 38/40, 80539 München (DE). **ICON GENETICS, INC.** [US/US]; 66 Witherspoon Street, Suite 134, Princeton, NJ 08542 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **GIRITCH, Anatoly** [UA/DE]; Bergstrasse 1, 06108 Halle (DE). **ELIBY, Serik** [KZ/DE]; Wittekindstrasse 7, 06114 Halle (DE). **MARILLONNET, Sylvestre** [FR/DE]; Nietlebenerstrasse 20, 06126 Halle (DE). **KLIMYUK, Victor** [GB/DE]; Herderstrasse 10, 06114 Halle (DE). **GLEBA, Yuri** [UA/DE]; Mühlweg 37, 06114 Halle (DE).
- (74) Agent: **HARTZ, Nikolai, F.**; Wächtershäuser & Hartz, Weinstrasse 8, 80333 München (DE).
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(54) Title: PLANT TRANSFORMATION WITH IN VIVO ASSEMBLY OF A SEQUENCE OF INTEREST

(57) Abstract: A process of producing transgenic plants or plant cells stably transformed on a chromosome with a DNA sequence of interest and capable of expressing a function of interest from said DNA sequence of interest, said process comprising (a) providing plant cells or plants with at least two different vectors, whereby (i) said at least two different vectors are adapted to recombine with each other by site-specific recombination in said plant cells for producing a non-replicating recombination product containing said DNA sequence of interest, (ii) said at least two different vectors are adapted for integrating said DNA sequence of interest into said chromosome, (iii) said DNA sequence of interest contains sequence portions from at least two of said at least two different vectors, said sequence portions being necessary for expressing said function of interest from said DNA sequence of interest; and (b) selecting plants or plant cells expressing said function of interest.

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